APPENDIX E: OVERVIEW OF THE HISTORY OF COMMERCIAL FISHING AND RELATED ACTIVITIES IN THE NORTHWESTERN HAWAIIAN ISLANDS

(This appendix was prepared by the staff of the Western Pacific Regional Fishery Management Council.)

The following excerpt from Cobb (1902:497-498) suggests that commercial fishing in the waters adjacent to the NWHI began with the establishment of a shark fishery:

> *During the latter half of the [nineteenth] century particularly, considerable shark fishing was done among the chain of islands to the westward of the main [Hawaiian Islands], and these islands in time came to achieve an unenviable notoriety from the number of wrecks which occurred upon their shores. The first record we have of this fishery was in 1859 when the bark Gambia returned from a three and one-half months' cruise amongst these islands with, among other things, a quantity of sharks' fins and oil. In 1872 the Henrietta made a cruise among the islands for the same purpose. In 1886 the schooner General Seigel, while on a shark-fishing cruise, parted her cables and went ashore at Midway Island…*

It appears that the usual practice during these early fishing trips to the NWHI was for a fishing vessel to leave a group of men on one or more islands to collect what marine products they could until the vessel returned to retrieve them and their harvest (Elschner 1915). The vessels employed were capable of trans-oceanic voyages and hailed from ports around the world. For example, the Japanese-owned, American-chartered schooner *Ada* working out of Yokohama visited French Frigate Shoals in 1882 (Amerson 1971). It left the shoals with a cargo of shark flesh, fins and oil, turtle shells and oil and *bêche-de-mer*. Shark products and *bêche-de-mer* harvested around the Hawaiian Archipelago were usually shipped to China or Chinese residents in California (Cobb 1902).

The fishing range of the Honolulu-based "sampan" fleet that became established in Hawai‘i at the end of the nineteenth century increased substantially after the introduction of motor powered vessels in1905 (Carter 1962). The sampans began fishing around the NWHI at least as early as 1913, when one commentator recorded: "Fishing for ulua and kahala is most popular, using bonito for bait, fishermen seek this [sic] species in a 500 mile range toward Tori-Jima [NWHI]" (Japanese Consulate 1913, as cited in Yamamoto 1970:107). Within a few years more than a dozen sampans were fishing for bottomfish around the NWHI (Anon. 1924; Konishi 1930). Fishing trips to the NWHI typically lasted 15 days or more, and the vessels carried seven to eight tons of ice to preserve their catch (Nakashima 1934). The number of sampans traveling to the more distant islands gradually declined due to the limited shelter the islands offered during rough weather and the difficulty of maintaining the quality of the catch during extended trips (Konishi 1930). However, during the 1930s, at least five bottomfish fishing vessels ranging in size from 65 to 70 ft. continued to operate in the waters around the NWHI (Hau 1984). In addition to

catching bottomfish, the sampans harvested lobster, reef fish, turtles and other marine animals (Iversen et al. 1990; Shinsato 1973).

During the early twentieth century a short-lived fishery for pearl oysters (*Pinctada galtsoffi*) also developed in the NWHI as described by Galtsoff (1933:3):

> *The honor for the discovery goes to Capt. William G. Anderson who in 1927, when fishing for a commercial concern, found a large pear oyster bed in Pearl and Hermes Reef… . In 1928 several tons of shells were brought to Honolulu and sold to manufacturers of pearl buttons in San Francisco and New York. The newly discovered beds were yielding considerable numbers of pearls which were offered at the local market in Honolulu and sent also to New York and Paris. During the years of 1927 and 1928 Hawaiian fishermen made several attempts to reach Pearl and Hermes Reef in their fishing boats (sampans), but with one exception the boats were either lost at sea or were forced to return home … . One successful Japanese fisherman brought back to Honolulu about six tons of shells. Intensive shelling operations were carried on, however, by the Hawaiian Sea Products Co. (Ltd.), which dispatched to Pearl and Hermes Reef the schooner Lanikai, … which was … equipped for fishing operations with various gear and a freezing apparatus. By permission of the Government of the Territory of Hawaii the company erected several buildings on one of the islands inside Pearl and Hermes lagoon.*

During the few years that the pearl shell fishery was active not less than 100 tons of shells were removed from the NWHI (Galtsoff 1933). The vessel *Lanikai* also used the fishing station at Pearl and Hermes Reef as a base for harvesting bottomfish, mullet, *moi*, turtles and other seafoods (Hamamoto 1928; Iversen et al. 1990). This vessel was the first to freeze fish harvested in the NWHI using on-board refrigeration facilities (Hamamoto 1928). The actual fishing was performed by Japanese immigrant fishermen aboard sampans that were towed by the *Lanikai* to the fishing grounds (Thurston 1927).

All fishing in the NWHI ceased during World War II but recommenced shortly after the war ended. In 1946, the Navy abandoned the military base that it had constructed on Tern Island during the war. Amerson (1971) recounts the events that followed:

> *The U.S. Navy, forgetting about French Frigate's status as a federal wildlife reservation and thinking they owned Tern Island, tried to hand over the disestablished base to the Territory of Hawaii. The Territory refused, but discussion on the issue continued. In early November 1948 the Territory's Hawaiian Aeronautics Commission notified the Commandant of the 14th Naval District, Pearl Harbor, that it was "in a position to take over the airstrip and other facilities…and…make them available…to the fishing industry.*

Amerson (1971) states that commercial fishermen began to use the Tern Island facilities, which included an airfield, barracks and wooden pier, as early as June 1946. Later that same year a chartered DC-3 cargo plane flew *akule* (*Selar crumenopthalmus*) caught near French Frigate

Shoals to Honolulu for sale (Amerson 1971; Iversen et al. 1990). This venture lasted for only about three years, but various commercial fishing vessels continued to use the Tern Island facilities through the 1950s (Amerson 1971). In 1952, the U.S. Coast Guard renovated part of the facilities on Tern Island to serve as a LORAN station. When the station was decommissioned in 1979, the State of Hawai‘i expressed an interest in establishing a fisheries base in the NWHI by mooring refrigerated barges and a floating dock near Tern Island (HDAR 1979). The state hoped that the base would support the development of bottomfish, shrimp, lobster and tuna fisheries in the NWHI. In 1981, the National Marine Fisheries Service rendered a biological opinion that concluded that the proposed fishery use of Tern Island was incompatible with the needs of the endangered Hawaiian monk seal (*Monachus schauinslandi*) and threatened green sea turtle (*Chelonia mydas*) (HDAR 1986). In 1984, the Hawai‘i Division of Aquatic Resources produced a new proposal that involved basing a mothership near Tern Island to support a small fleet of multi-purpose fishing vessels. The concept of the fishing support base was incorporated into the Hawaiian Islands National Wildlife Refuge Master Plan/Environmental Impact Statement prepared by the U.S. Fish and Wildlife Service in 1986, but no further action was taken.

In 1953, the Territory of Hawai‘i enacted fishing regulations pertaining specifically to the NWHI (Anon. 1953). Under the regulations, the Territorial Board of Agriculture and Forestry could authorize the taking of fish in the NWHI or the use of fishing gear which were otherwise illegal in the territory. Commercial fishermen wishing to take advantage of the rules were required to obtain a permit setting forth the species of fish which may be taken or the fishing gear to be used. The regulations specifically allowed the taking of lobsters and mullet in the NWHI during the legal closed season provided that the lobsters did not weigh less than one pound or carry eggs and that the mullet were not less than seven inches in length. The use of fish traps that were fixed or larger than those allowed to be used around the MHI was also permitted.

During the first half of the twentieth century Honolulu-based sampans equipped with longline gear occasionally fished for *ahi* (*Thunnus albacares* and *T. obesus*) as far as Midway Island (Norwood 1937). In addition, June (1950) reports that prior to World War II Japanese longline boats fished to the longitude of Midway. Rutka (1984) notes that the foreign vessels valued the fishing grounds around the NWHI and just north of them because of the abundance of bigeye tuna (*Thunnus obesus*), a premium species in Japan’s *sashimi* market. The foreign longline fishery occurring within 200 miles of the NWHI ended in 1980 when U.S. restrictions were placed on the fishery (Rutka 1984). However, Japanese pole-and-line vessels continued to operate in the U.S. EEZ surrounding the NWHI through 1992 (Boggs and Kikkawa 1993).

To encourage American fishing vessels to compete against the Japanese distant water fleet for the pelagic fishery resources of the Central and North Pacific a number of resource assessments were conducted by various U.S. entities. In 1948, for example, the Pacific Exploration Company, under contract with the Reconstruction Finance Corporation, conducted exploratory tuna fishing operations along the NWHI from French Frigate Shoals to Kaua‘i (Eckles 1949). The survey also prospected for baitfish at French Frigate Shoals, and found “considerable quantities” of *iao* (*Hepsetia insularum*) (Smith and Schaefer 1949:3). The U.S. Fish and Wildlife Service researchers that participated in this investigation concluded that “the abundance of tuna is

sufficient for considerable expansion of the present local fishery carried on by live-bait sampans for skipjack and 'flag-line' boats for yellowfin tuna, which is now well established in the waters adjacent to the main [Hawaiian] islands" (Eckles 1949:9). Additional tuna and baitfish surveys in the NWHI were made throughout the 1950s and 1960s (Uchiyama 1980).

From 1975 to 1978, the Pacific Tuna Development Foundation sponsored exploratory fishing surveys by West Coast albacore trolling vessels in areas northwest of Midway Island (Hida 1984). In 1979, the State of Hawai'i and a private seafood processor obtained a one-year use permit from the Navy to organize a mother ship operation at Midway Island supporting 20 albacore trollers (Hida 1984). The state proposed to establish a more permanent support operation at Midway during the early 1980s but no action was taken.

In 1975, the NMFS, U.S. Fish and Wildlife Service and Hawai'i Division of Aquatic Resources joined in a cooperative agreement to conduct a five-year assessment of the biotic resources of the NWHI (Grigg and Pfund 1980). The University of Hawai'i Sea Grant College Program joined the study in 1977. Some of the resource surveys conducted by NMFS during the "tripartite-Sea Grant" investigation concentrated on species of high commercial potential and led to the instigation of major fisheries. For example, a survey of the spiny lobster (*Panulirus marginatus*) resource was conducted at 26 sites, of which Necker Island and Maro Reef appeared to have sufficiently large stocks for commercial exploitation (Uchida and Tagami 1994). Shortly after the survey began five commercial vessels began full-scale lobster trapping operations. In 1986, the Council developed rules prohibiting lobster fishing within the EEZ landward of the 10 fm contour and within 20 nm of Laysan Island to reduce the risk of interactions with the Hawaiian monk seal. During the early 1980s, a rapid increase in landings occurred as more vessels entered the lobster fishery and markets developed (Polovina 1993). In 1991, however, the harvest level fell dramatically due to a climate-induced change in productivity (Polovina et al. 1994). The fishery was closed during all or part of 1993, 1994 and 1995 but was re-opened as a limited access fishery operating under a fleet wide seasonal quota in 1996.

The tripartite-Sea Grant investigation also played a role in the revitalization of the NWHI bottomfish fishery. Shortly after World War II as many as nine bottomfish boats were operating in the area, but the number of vessels declined during the 1950s because of vessel losses and low fish prices (Hau 1984). By the 1960s, only one large sampan continued to regularly operate in the NWHI, centering its activity near French Frigate Shoals (Hale 1964). However, during the late 1970s information from the tripartite-Sea Grant investigation on the bottomfish resource potential in the NWHI together with declining yields in the bottomfish fishery around the MHI encouraged many new vessels to enter the NWHI fishery (Haight et al. 1993b). By 1987, 28 vessels were active in the NWHI bottomfish fishery, although only 12 were fishing for bottomfish full time. The non-full time vessels also engaged in longlining for pelagic fish, albacore trolling or lobster trapping (Iversen et al. 1990). In 1989, the Council developed rules dividing the fishing grounds of the NWHI bottomfish fishery into the Ho'omalu Zone and Mau Zone. Limited access programs were established for the two zones in 1989 and 1999, respectively, to improve the economic performance of the fishery.

In the late 1980s, declining catch rates in the NWHI bottomfish and lobster fisheries induced many participants in those fisheries to switch to fishing for pelagic species with longline gear (Pooley 1993a). A large number of the longline vessels that targeted broadbill swordfish (*Xiphias gladius*) fished in close proximity to the NWHI islands (Nitta and Henderson 1993). In 1991, the Western Pacific Regional Fishery Management Council developed rules prohibiting longline fishing within a 50 nm radius of the NWHI to reduce the risk of interactions with the Hawaiian monk seal.

In 1965, Japanese coral fishermen discovered a large bed of pink coral (*Corallium* spp.) on the Milwaukee Banks in the Emperor Seamount Chain near the northwestern end of the Hawaiian Archipelago (Grigg 1993). Intermittently, over the next two decades dozens of foreign vessels employed tangle-net dredges to harvest precious corals in the waters around the NWHI. In 1980, the Council developed harvest quotas for precious coral beds around the Hawaiian Islands. During the 1980s, however, Japanese and Taiwanese coral vessels frequently fished illegally in the U.S. EEZ near the Hancock Seamount (Grigg 1993). In 1985, Taiwanese vessels reportedly poached about 100 tons of pink coral from north of Gardner Pinnacles and Laysan Island (Grigg 1993). In 1988, the domestic vessel *Kilauea* used a dredge to harvest beds at Hancock Seamount, but the operation was soon discontinued because of insufficient harvests of high quality coral (Grigg 1993).

A trawl and bottom longline fishery targeting alfonsin (*Beryx splendens*) and armorhead (*Pseudopentaceros richardsoni*) at the Southeast Hancock Seamount was started by Russian and Japanese fishing vessels in the late 1960s (Okamoto 1982). Large catches were made for about 10 years until overfishing caused the fishery to collapse. A moratorium on the harvest of alfonsin and armorhead on the Hancock Seamounts has been in effect since 1986 in an effort to rebuild the stocks.